Raising Community Awareness about zoonotic disease, the Roles of Professionals and Media

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Dedication

This study is dedicated to the soul of my father, who reserved No effort to get me where I am now. My mother, My sisters, My brother, To the person who will my spouse and with Whom I hope to continue my life (Sufian).

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Thank in the beginning and at last, for Allah, the gracious and great for helping me go through and finish this work

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Abstract

This study was carried out to through light on the factors that affect circulation of fact statement reported and listed in media. Media plays an important role in spread of information, which formulate knowledge and attitude of communities .The study also focuses light on factors that determine the roles and efficiency of veterinarian and physicians as professionals in handling problems, and study targeted people that have relationship with animal owners and methods used to deal with health problems .The recent outbreak of Rift Valley Fever (RVF) was taken as a case study.

A questionnaire was designed and distributed in different locations in Khartoum, White Nile, Sennar states. Questions were mainly focus in how the disease is reported, controlled and prevented. Knowledge sources and development of professional carrier were examined. Another questionnaire was distributed to farmers. Both urban and rural communities were included to estimate the main factors that affect disease control and prevention.

A comprehensive review of articles that were published in the daily newspapers about the issue was made.

The analysis of the questionnaire was done using simple statistically Methods of percentage and frequency .Also a similar analysis was made for newspapers materials.

Most veterinarians have good idea about zoonosis especially RVF reported from the field and mentioned widely in media. This reflected adequate knowledge in all diseases. however veterinarians know much about zoonosis , but contribute little to the field of raisy awareness about the disease.

Focusing light on roles and responsibilities of professionals of Ministry of Health, Ministry of Animal Resources and Press to deal with problems. Showed that :

The linkage between them, responsibilities for extension, and disease reporting were not clear. The role of individual who have relationship with animals is necessary to avoid epidemics and zoonotic diseases need to have a defined body , with media representative as partners to reduce the hazard of dissemination of wrong information which leads to a state of un necessary horror among the communities. Observing professional ethics by both professionals and journalists should be a safeguard against spread of wrong in formations scare among the communities.

الخلاصة

صممت هذة الدراسة لتلقي الضوء علي عدة عوامل أساسية لتحدد نسبة الحقائق الصحيحة التي ضمنت ونشرت في وسائل الإعلام ، وذلك لان الإعلام يلعب دور هام في انتشار المعلومة ووصولها إلي المتلقي وذلك من خلال انتشاره وسرعته .

و أيضا قامت بتسليط الضوء علي العوامل و الأسباب التي تؤثر علي كفاءة الأطباء البيطريين ووجود القواسم المشتركة مع الأطباء فيما يجمع بين التخصصين من خلال دورهما في احتواء الإمراض المشتركة . أخذت حالة مرض حمى وادي الصدع كموضوع للدراسة.

وللوصول إلي تلك المعلومات فقد صمم استبيان في مواقع مختلفة في ولاية الخرطوم ، وولاية النيل الأبيض ،وولاية سنار .

ولكي نستشعر الوعي لدي الرعاة و أصحاب الحيوانات من خلال دورهم في انتقال المرض وذلك لالتصاقهم بهم ، فقد صمم استبيان آخر لهم شاملا مدينة الخرطوم ، بحري و أم درمان وذلك لمعرفة دورهم في التعرف علي المرض وطرق مكافحته. وعند تحليل النتائج كانت كالاتى:

معظم الأطباء البيطريين لديهم معلومات عن الأمراض المشتركة التي تتردد عليهم في الحقل أو التي يتم ذكرها في وسائل الإعلام لكن لكي يكتمل دورهم فهم يحتاجون لمزيد من الجهد ونشر الوعي والمعلومات المتعلقة بالأمراض المشتركة .

كما إن الأطباء يرون إن وزارة الصحة والمنظمات هي أهم جهات تعنى باحتواء المشاكل المشتركة ، بينما في واقع الحال يجب تواجد لجان مشتركة متخصصة من وزارات الصحة و الثروة الحيوانية والإعلام تعنى بمثل هذه المشاكل.

أما فيما يتعلق بأصحاب الحيوان فيجب تكثيف العمل الإرشادي وسهولة وصولة في أي وقت لتلافي انتشار الأوبئة خاصة الأمراض المشتركة حتى ولو لم يوجد وباء .

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Introduction

Rift valley fever (RVF) is an acute arthropod-Borne viral infection with wide range of vertebrate hosts, including man, .the range of (RVF) had been confined to the Ethiopian faunal region of Africa, but the disease was identified in Egypt in 1977 and in Arabian Peninsula in 2000. The disease has been recognized in an enzootic or epizootic form in many tropical and sub tropical African countries, and in Madagascar. Epizootic RVF had been reported in the Sudan, in the Gezira irrigated area in 1973-74. There were enormous losses in sheep, goats and cattle population, and reported abortions in camels.

Both man and animals were affected and in some instance, neurological signs were detected in humans, sometimes leading to mortalities deaths.

Human cases were suspected when related to storms of abortion and neonatal deaths in domestic animals, including camels. This was probably the most dramatic episode of RVF ever encountered.

RVF is one of the most significant zoonotic disease problems in Africa. The occurrence of the most highly fatal hemorrhagic human disease syndrome, similar to Ebola and other hemorrhagic fevers.

RVF is highly contagious for humans if animals are viraemic at the time of slaughter, however, one of RVF, greatest impact is upon trade in livestock from the affected countries and their neighbors.

Aerial Trans port of vectors and increased animals movement facilitate the introduction of the disease

Primates, rodent and carnivores are susceptible to experimental infections with some deaths, but no mortality has been observed in the wild life.

The occurrence of RVF in Egypt in 1977 was though to the result from

movement of the infection from RVF enzootic areas in sub Saharan Africa. Epizootic RVF disease also occurs in domestic animals in the arid and semi arid sahelian zone in north and south of the continent. They appear to be more susceptible than those in bushy and woody grassland and forest zone .Animals; particularly sheep, goat, and camels have been affected.

The social consequences of the disease include among others, the general scare and fear among humans from contracting the disease. The consequent apprehension from consumption of animal products, especially meat and milk, are immediate out comes. Information on disease outbreaks can be released formally through formal channels, yet informal leakage may be expected.

Media particularly daily newspapers, are wide spread source of information to the public. The degree of authentic correct information depends on the source information and authority of this information.

This study was planned with the general objectives to investigate the degree of precision in spreading information in newspaper and the possible factors that affect this precision from the professional sources .The reflection and implications were measured in the livestock owners knowledge , attitude and practice .

The specific objectives of the study are:

1\ To review the history, geographic distribution and socio- economic impact RVF

2/ To analyze the information about the rift valley fever reported and listed in the news paper and media with the intention to determine the rate of true facts statement

3\ to assess the scientific knowledge of the

Authors that write this information

4/ to assess the professional knowledge of veterinarian and physicians handling the problem

5/ to analyze the knowledge of livestock farmers with regards to animals disease identification and prevention.

6\ To suggest a model of defining the roles of the different partners in delivery of informations.

Chapter one

Literature review

1.1 The disease: Definition of RVF as stated in code (OIE) 2008

Rift valley fever (RVF) is peracuty or acute zoonotic disease of domestic ruminant in Africa. it is caused by a single serotype of a mosquito –borne bunyavirus of the genus phelovirus. The disease occurs in climatic conditions favoring the breeding of mosquito vectors and is characterized by liver damage. The disease is most sever in sheep, goats and cattle, in which it produces abortion in pregnant animals and a high mortality rate in the new born. Older non pregnant animals, although, susceptible to infection, are more resistant to clinical disease.

There is considerable variation in the susceptibility to RVF of animals of different genotypes. Those breeds or strains that are exotic to Africa or are from areas where RVF is not endemic, tend to be more susceptible. Camels suffer in apparent infection with RVF, but abortion rates can be as high as in cattle.

Humans are susceptible to infection by handling infected materials and through transmission by mosquito vectors. Infection of humans by handling infected material and through transmission by mosquito vectors. Infection of human by vectors is a striking feature in countries with a relatively small population of animal hosts. In such areas, RVF may be recognized first in humans. It has caused serious disease in laboratory workers and must be handled with high level biosecurity.

Rift valley fever virus (RVFV), a member of the family of Bunya viridian, genus phoebe virus (McIntosh et al; 1980), cause the disease.

The viral particles are spherical or polymorphic, depending on the method used for fixation as with all member of family of bunya viridian. (Gonzales

et al, 1996).

The virus grows readily in all counties cell lines and impersonated chicken eggs as well as in variety of laboratory animals (Seifert, 1996).

1.2.1 History and geographic distribution*:*

RVF virus primary infects domestic cattle causing massive epidemics in animal population across Africa (Esia et al 1977) (b).

Modification in ecology, biology of the virus and environmental condition appear to be responsible for the emergence of the virus (Meegan and Bailry 1989; peters et al; 1994).

Tara (2002) stated that an outbreak of RVF is often associated with period of heavy rainfall or construction of dams, after which the mosquito population flourishes.

RVF was first identified in 1930 as an outbreak in exotic wool producing sheep and an illness in human that occurred in the Rift Valley of Kenya (FAO, 2003).

Outbreaks have since occurred in high lands of Kenya at irregular intervals of 3-15 years .The most recent epidemic in the East African region was in 1997-98 in the drier areas of the north east of Kenya and southwest Somalia after heavy rains. This caused human death and some livestock losses, particularly of camels (FAO, 2003)

The disease was first recorded in the Republic of South Africa in 1950 , when a major epizootic in South Africa caused an estimated 100 000 deaths and 500 000 abortions in sheep .A second extensive epizootic occurred in Namibia and South Africa in1974-75 (FAO 2003) .

In 1973, RVF outbreaks occurred in irrigated areas of the Sudan.

In 1977, the virus was isolated from infected cattle during an epizootic of the

diseasein Aswan, south Egypt (Abd Elwahab et al, 1978, Arthur et al, 1993)

RVF outbreaks again occurred in Egypt in 1993 (FAO, 2003)

Another epidemics of the disease was once again, reported in Aswan, Egypt in the summer of 1997, and the virus was isolated from calve, (Abdelhkeem et al, 1998).

Until recently, RVF was though to be restricted to Africa; however, it was reported in the Tehama areas of both Saudi Arabia and Yemen, in September 2002(FAO, 2003).

An epizootic of the disease was also reported in Kosti district , the white Nile province of the Sudan in 1973, it covered almost every single locality in the district and spread to Blue Nile province ,sheep, goat, cattle and human were involved (Esia and Obied , et al,1977a) .Mortality rates were highest in lambs followed by goat kids and calves (Eisa and obied et al; 1977a). The virus isolated and identified as RVF using serum neutralization test (SNT). (Esia and obied et al; 1977b).

(Esia 1984) surveyed domestic animals of the Sudan for precipitating IgG antibodies to RVF antigens .The prevalence of the infection was 34.3% in sheep, 33.2% in cattle 22% in goat, 7.9% in camels and 4% in donkeys .Antibodies to RVF were not detected in sera from horses. A recent serological survey was conducted in-patient admitted to Hag Elsafi Hospital, Khartoum, Sudan for detection of antibodies to RVF .Approximately 3% of the patients were suspected to be infected with RVF, as determined by detection of IgM antibodies (Kambal, 1997).

1.3 Epidemiology and geographical distribution:

In this part, we focus on the distribution and mode of transmission of vector, and environmental factors that affect the distributions of the virus and activity of the vector.

1.3.1. Transmission of RVF:

RVFV is an arthropods –borne virus. The virus is transmitted mainly by mosquitoes of Ades or Culex, however, other arthropods, such as culicoides imicola, and ticks may serve as mechanical vectors for RVF (Esia et al; 1980). The importance of these vectors and their distribution is directly related to the distribution of RVFV strains.

In central Sudan, the prevalence of the virus antibodies showed marked seasonal pattern, with the infection level being higher in the rainy months, which coincided with high population density of the invertebrate vectors (Esia, et al 1980). Based on these surveys, it was concluded that RVF circulates across the Sudan in south-north axis along the River Nile Valley with little or no extension to the dry areas on the east and west (Esia et al, 1980)

1.3.2. N on –vector transmission of RVF:

Unlike, human , non vector transmission of RVF is not considered to be important in livestock .The risk of human to human infection through direct contact appears also to be very low. However, in addition to mosquito transmission, humans are easily infected by contact with the body fluids or infected animals through contact with abraded skin, wounds or mucous membrane or inhalation of aerosols .Thus ,the slaughter of infected animals, necropsy procedures and laboratory handling of tissues and isolated viruses are activities carrying a high risk of disease transmission .(FAO.2003).

Biological fluids including serum, and milk may serve as a source of infection or play a role in transmission of the disease during viraemia.

1.3.3 Reservoir hosts :

Since the duration of viremia was not precisely determined in each specific ruminant species, it would be extremely difficult to predict which animal

species is likely to be the reservoir host of the disease. Camels may contract the infection during an epizootic of RVF .However, the infection is usually sub clinical and abortion is the only sign of the disease in pregnant she camel (Esia and obied; 1977a). Sub clinically infection of infected camels and other wild animals could probably serve as reservoir hosts for RVF if viremia persist for along time in these particular animal species .In addition ,rodents were suspected as potential reservoir of RVF in south Africa (Peters et al., 1994)

1.3.4 Populations at risk:

Studies have shown that sleeping outdoors at night in geographical regions where outbreaks occur could be a risk factor for exposure to mosquito and other insect vectors .Animal herd men ,abattoir workers, and other individuals who work with animals in RVF in endemic areas (areas where virus is present) are exposed to increased risk for infection .International travelers increases their chances for getting the disease when they visit RVF endemic location during periods when sporadic cases or epidemics are occurring (OIE, 2004)

1.3.5 Cryptic or Sylvatic cycle:

In Africa, the infection cycle among indigenous population, most domestic and wild vertebrate animals and mosquitoes is sub clinical, both in man and livestock .In the rain forest and wetter wooded areas of the country, the virus circulate silently between wild and domestic species and insect vectors .This is referred to as cryptic or Sylva tic RVF virus activity .Cryptic RVF is extremely difficult to identify if it occurs in most countries of sub –Saharan Africa (FAO, 2003).

1.3.6. Environmental factors:

The environmental conditions appear to play a crucial role in the distribution of the arbovirus. In any continent, where the activity of the vector is likely to be highest during late summer and early. Rainfall seasons .In contrast, the activity of the vector is usually suppressed during the winter (cool season); however, transmission of RVF during the winter season is not un common. (Peters et al 1997).

1.4 Clinical manifestations:

The most prominent clinical manifestation in all animal species involved was severing ictrus and abortion according to field observations. The duration of the disease is very short extending from 2 to 7 days, after which the animals succumbed or recovered (Esia et al; 1980).

1.4.1 Sheep and goats :

Clinical disease occurs in susceptible sheep (such as imported wool sheep) of all ages, but most sever in young lambs .The morbidity rate in infected flocks approaches 100%. The mortality rate may be as high as 95% in lambs less than one week old, about 40-60 %in weaner lambs, and 5-30 %in adult sheep .The abortion rate may approach 100 % (FAO, 2003).

1.4.2 Cattle and water buffalo:

The mortality rate in exotic calves of Boss Taurus breed ,such as Friesians ,may be up to 30% ,or even higher in neonates .In adult cattle the mortality rate is less than 2-6% while pregnant cows abort .In extensively ranched cattle ,abortion may not be observed and a drop in calving rate may be the only sign recognized (OIE,2004).

1.4.3 Camels:

Although infection is generally sub clinical in mature animals, pregnant she-camels may abort at any stages of pregnancy and neo natal

deaths can occur .Abortion rats of 70 % of those pregnant animals occurred with many deaths in foals 3-4 months of age (Esia et al; 1980).

1.4.4 Humans

After an incubation period of two to six days , patients experience an influenza –like disease with a sudden onset of fever ,debility ,headache ,backache and other muscle pains ,and often phtophopia and vomiting .The fever is diphasic .RVF in people who have pre –existing disease such as schistomiasis or mal nutrition may be sever or even fatal (FAO 2003).

1.5 Pathology:

RVF infected mosquitoes or other insects vectors transmit the infection by inoculation. The virus invade the sub cutis and join the lymphatic and eventually reaches the regional lymph nodes where initial replication of the virus takes place ,the virus enters the blood stream causing viremia .The persistence of viremia for a long time in cattle could probably be explained by the association of the virus with blood cells (Aradaib et al 1997).

1.5.1 Gross pathology:

At necropsy, the most characteristic lesions in all animal species are various degrees of necrosis of the liver and extensive jaundice of the whole carcass (Esia et al; 1980).

1.5.2 Histopathology:

In the livers of young animals, there are well-defined primary foci of sever coagulative necrosis, which may be centerilobular .These are accompanied by diffuse and massive pan –necrosis involving most (or all) of the rest of the parenchyma. The primary necrotic foci are later infiltrated by histocyte, lymphocyte and neutrophils, many with marked pyknosis and karyorrhexis. (FAO, 2003).

1.6 Immunity:

Igm antibodies first appear about five days after the onset of RVF clinical signs, at which viraemia ceases. They persist for one to two months, or even three to four months in some animals. IgG anti bodies appear 10 -14 days after the onset of infection and persist for at least one to two years or for life. Convalescent immunity after natural infection lasts for a long time (FAO, 2003).

1.6.1 Investigation of the disease in Sudan:-

It was notified from the central states of the country, that there was a suspected occurrence of RVF outbreaks .The white Nile and nebouring states had been visited by joint team including Ministry of Animal Resource an Fisheries, Ministry of Science and Technology investigate the appearance of symptoms of infection. From official reports there were no deaths or abortions registered.

A team of specialist in epidemiology, microbiology and entomology from the department of Animal Health and Control of Epidemic in the Ministry of Animal Resources and Fisheries and the veterinary research laboratory left to the RVF suspected site. The veterinary was later supported by a team from the ministry of health, WHO, FAO, group of veterinarian and specialist in the state. All teams were engaged in investigation and surveillance though they didn't find any symptoms confirming the disease. Sample collected were sent to the Central Veterinary Laboratory for confirmatory diagnosis. Antibodies for RVF virus in three focal areas in the White Nile state were detected using IGM Elisa.

Sam also sent to an OIE reference laboratory in South Africa to confirm the diagnosis and for virus isolation, no virus was isolated.

1.7 Diagnosis of Rift Valley Fever (RVF)

1.7.1 Field diagnosis:

RVF epizootics should always be strongly suspected when there is a sudden onset of large numbers of abortions in sheep ,goats ,cattle or camels and deaths in lambs ,kids or calves .This is specially the case if there is surface flooding in savannah or semi –arid areas fallowing prolonged rains , or in irrigated areas ,if mosquito population are high , and if there is concurrent illness in human population ,(FAO 2003) .

1.7.2 Laboratory diagnosis:

1.7.2.1 Collection and Transport of samples:

Whole blood, liver, lymph node and spleen are the fluid and tissues of choice for isolation of the virus .Blood samples should be collected from febrile animals into (EDTA) or heparin .Samples of liver and spleen should be collected aseptically both from freshly dead animals at autopsy and from aborted fetuses, if available, and placed in sterile containers. (OIE, 2003)

1.7.2.2 Serological techniques:

Serology may not identify an active infection and cross –reaction at the sero group level, which is likely to occur with other members of the phelebovirus genus, however, it is useful to determine post infection in a sero epidemiological survey, (Aradaib and Abbas, 1985)

1.7.2.3 Nucleic acid detection tests:

Viral hemorrhagic fevers (VHFs) are acute infectious agents with high case fatality. VHVs are clinically difficult to diagnose and to distinguish; rabid and reliable diagnosis is required in suspected cases (Drosten et al, 2002). For detection of viral genetic material a reverse Trans criptase PCR test is now available for detection of viral genetic material (Sall et al ; 2001).Reverse Transcriptase Polymerase Chain Reaction (RT-PCR) is an

important diagnostic tool for rapid detection and differentiation of RFV infections during endemicity of disease (Aradaib et al ; 1994)

1.8 Prevention and control:

The investigation for the foucus of the infection is very cruial in the control of the disease .Human and veterinary hospitals and clinical centers offer an excellent opportunity of establishing community relations and furthering social awareness of the impact of communicable disease that occur in the locality . Database should be established in these hospitals and clinics to assist in tracing the environmental source of the emerging viral pathogen or disease and hence plays an important role in under standing their natural history (Araadib and Abbas 1985).

Prevention and control of RVF infection are dictated by climatic conditions.

1.8.1 Vector control

Control of the disease by eradication of vector species as mosquitoes or others insects is expensive ,extremely difficult , and is not a logical options in a vast country , like the Sudan . The control measures should be aimed at minimizing contact between susceptible animals and vectors, during RVF seasons (Aradaib et al 1999).

1.8.2 Vaccination:

Importation of animals from endemic areas to RVF –free areas should be restricted to vaccinated animals to prevent further dissemination of the virus during RVF epizootic, especially when it is recognized that vaccination during epizootic is not a valid option as was suspected to occur. .Moreover, an attenuated strain of RVF is probably circulating where vaccination reduce risk of flare up of the disease in kuku, (Aradib et al, 1999).

Pittman et al (1999) stated that, to protect animals and humans from contracting RVF virus, formalin –killed RVF virus vaccine (P-MKC) was

used.

The prepared vaccine (NDBR-103) was evaluated in mice and hamsters for immune response and efficacy and for its immune response in humans .As applied technologies have been improved, a more modern inactivated product (TSI-GSD-200) was developed and after successful preclinical evaluation it was tested in humans (Pittman et al 1999) .The immunogenicity and safety profiles of TSI-GSD-200 are excellent .The vaccine protects laboratory workers or others at high risk for RVF disease such as veterinarians in endemic areas. (Pittman et al, 1999)

1.8.3 Applied control in Sudan:

When notifications were made to the Under Secretary, he announced emergency in the Ministry of Animal Resources and Fisheries. This was accompanied by Forming an emergency team and a central information, to be on duty the week round, for containing the suspected cases. FAO sent a specialist in RVF to the disease suspected areas in the different state for surveillance and disease searching epidemics. The Under Secretary issued directive to minimize the disease these administrative institutions included:

1- Restrict movement of the livestocks from suspected focal areas.

2- Restrict movement of the stocks inside the suspected states.

3- Control of vector.

4- Supporting the suspected states by insectsides and all requirements for disease diagnosis and management.

Additional actions were taken to contact South Africa to provide vaccines to be used in control.

1.9 Role of institutions in animal health delivery system:

The objective of this section is to review implementation procedures and activities in the animal health for control the disease. The institutions

involved include International, Regional and National agents.

1.9.1 African Union Intrafrilan Bureau for Animal Resources (AU-IBAR).

(AU_1BAR) has developed an increasing capacity of regional inter governmental and health providers in the development of public –private sector partnerships in animal heath delivery services and control of Transboundry Animal Diseases

The Au -1BAR animal health main activities are as follows:

1. Initiate economic impact assessment for main epizootics in African countries.
2. Improve epizootic disease control strategies.
3. Develop effective practical and well. integrated emergency strategies for serious epidemics such as Rift Valley Fever that may occur (www,au-ibar.2009).

1.9.2The World Organization for Animal Health (OIE):

The need for fight of animal diseases at global level lead to the creation of Office International des Epizootics (OIE) through the international agreement singned on January 25th 1924 .In 2003 the office become the World Organization for Animal Health. The OIE is the intergovernmental organization responsible for improving animal health worldwide. The organization is placed under the authority and control of an international committee consisting of delegates designated by their governments.

1.9.2.1. The objectives of the OIE are:

1. Scientific information with monthly and annually regular reports by the member states stating animal health situation. The information contained in the monthly report with regard to farmer list diseases. An annual report of information obtained from the veterinary

services of OIE &FAO and WHO member countries in response to an animal questionnaire from the OIE central bureau is complied.

2. Food safety standards development and implementation
3. Transboundry disease reporting.
4. Sanitary standards related to animal health (Including zoonoses and animal welfare are continuously mentioned.
5. Promotion of veterinary services to be global public good and their bringing in line with international standards. (www.o.i.e.2009).

1.9.3 The World Health Organization (WHO):

Is the directing and coordinating authority for health within the United Nations system .It is responsible for providing leadership on global health matters ,shaping the health research agenda ,setting norms and standards ,articulating evidence based policy options ,providing technical support to countries and monitoring and assessing health trends (www.who.int).

1.9.4 The Food and Agricultural Organization of the United Nations (FAO):

The FAO plays a strategic role in livestock promotion world wide. In sub Saharan Africa like other African countries, it is facing major challenges in terms of building the capacities of the veterinary services. It plays a role in prevention, detection and rapid response to animal disease outbreaks .To come back to the prevention and control of major transboundary animal disease, and zoonosis by focusing on effective epidemiological surveillance. (www.fao.org).

Beside the international organization the national role a public awareness drive is also being organized by different organization to educate the public on RVF .These organization include the national civil society ,FAO ,WHO ,UNICEF .The message focuses on : WHO to know when human are

infected by RVF and how to prevent oneself from the disease .

Different institutions have an important role to play on the disease , in how to diagnose , prevent , and control it .On the other hand the owners play a role in animal health , not only that , but also continuous notification in case of infectious disease is necessary .

Media have an important role in dissemination of knowledge to communities, as it is fast and wide spread.

1.9.5 Ministry of Animal Resources and Fisheries (MARF)

Government of Sudan, represented by MARF is responsible for monitoring and reporting the spread of animal diseases and their control, the focal point is department of the animal health and epizootic disease control, which plans for the overall management of animal health and control of epidemics.

The planning depend essentially on promotion and advice of the world animal health organization (OIE) office, which focuses on control and elimination of epidemic disease . Which depend on the three management strategies:

1. The management and control of epidemic
2. The management of animal health.
3. The management of zoonotic disease.
4. Sudan as a member state is entitled to benefit from facilities provided by the OIE.

The obligatied of the member states to get benefits:

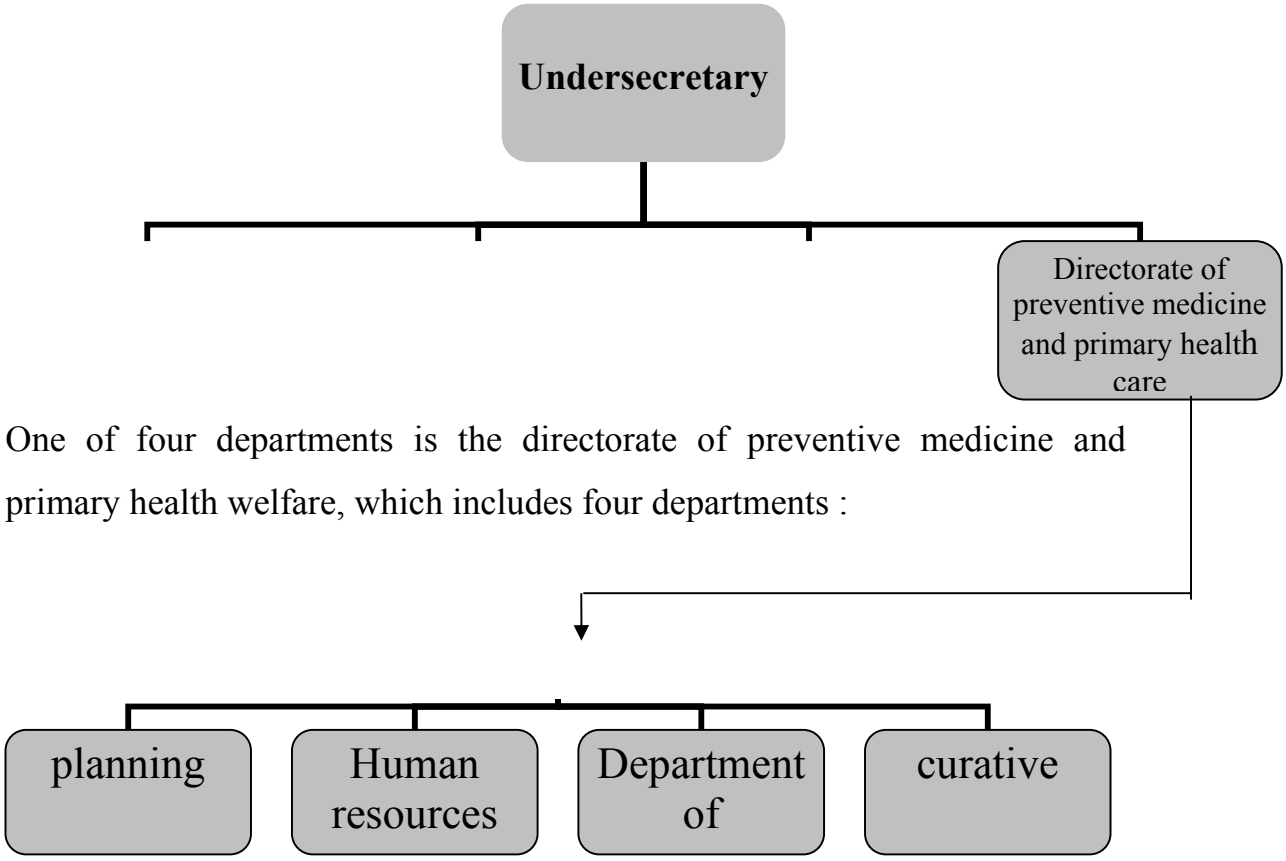
1. Adopt policy to control epidemic animal diseases and disease transmission between animals and human (zoonosis).
2. Plan and policy for general health for improvement animal health
3. Collection of special data related to epidemic disease analyze, and assessment the disease situation, and store the information in special

database.

4. International support may be needed for assessing national programme of control of epidemic diseases, which is provided upon request.
5. Reports at regular intervals are prepared to ensure the general situation of animal health to be sent to relevant counterpart like (OIE, AU/IBAR, FAO and WHO) (Head of AHEDC dept, Personal communication).

1.9.6 Ministry of Health:

The professional executive offices come under the undersecretary. The flow is as represented below.



One of four departments is the directorate of preventive medicine and primary health welfare, which includes four departments :

Fig (1) ministry of health administrative organogram

The department of contagious disease is responsible for :

1. Epidemics surveillance
2. Malaria and leshmaniasis program.
3. Shistosomiasis and filiriasis and vector borne disease.
4. HIV
5. Lapracy and T.B
6. Blind ness
7. Lymphatic Filariasis

Responsibilities:

Strategic planning – Human resources development – Aquiredment of resources.

Case of epidemics states notify about suspected disease. At the state level, there is a program of control and surveillance, focusing on data collection, which is submitted in a weekly report, is analyzed and sent to the national office. After surveillance, controls are started and in case of failure notification, necessary, to evaluation the situation.

A team is sent to the site of epidemic to ensure that there was enough work was done, and additional requirement must be sent to assist in control.

Confirmation of cases diagnosis can be by:

Samples sent to suitable laboratory, locally or reference laboratory under WHO. (Director of preventive medicine and primary health care, Personal communication).

1.9.7. Press Role:-

The main institution, which affects the dissemination of information to the public and have an important role in human's knowledge, is the press, including daily and periodic newspapers.

The National Council for Press and Publication (NCPP) is the official body

that regulates and assures ethical performance of released informations.

1.9.7.1 The NCPP powers:-

1. Examination and registration of individuals as professional journalist .
2. Stop papers in the event of any breach of licensing conditions.
3. Co ordination with the Journalist Union in holding journalists in accordance with the provisions of the NCPP law and the statute of the Union.
4. The formation of formation of specialized committees and organizations for special tasks.
5. Investigate on complaints from those affected by the dissemination of press materials and stop the accused newspaper until the completion of the investigation or less.
6. The application of sanction provided by law.
7. Set Conditions to be met by journalist and editors and requirements where by before the exercise of the professions of journalism, the person is to be registered in the register of journalists council. The law of the NCPP is the statutory law which regulates the professional practice and conduct of journalist.

1.9.7.2 The duties of the press:-

1- To exercise honesty and integrity in the discharge of this ex journalist with the principles and values enshrined in the condition and the law.

2- Not to reveal any confidential information relating to the security of the country.

1.9.7.3 The right of correction:-

1. The editor must publish at the request of any person affected by the deployment of any facts or comments, as a corrective to those

facts or statements at the same point in the paper and the same characters victim article published by them.

2. Correction should be published within three days from the date of the extradition request.

3. The council may take the appropriate penalty in the event of refusal newspaper after the publication of the patch clamp published by the council

1.9.7.4 penalties :-

1- Anyone who violates this provisions of the act and regulations made the reunder is guilty of a crime and the court may be punished on conviction as followed:

A. A fine determined by the court.
B. Stop the paper or the print
C. Write –off the press from the record if reported violation

The law speaks about examinations for joining the profession and some training provision. It is however does not include any mention on specializations of journalists (the code of press releases and publications for the year 2004). Another body is the journalists union, which is responsible for ethics and good conduct in newspapers.(The code of press releases and publications for the year 2004).

Chapter two

Material and methods

The study was designed to identify the deficiency in epidemic disease Rift Valley Fever disease reporting and information dissemination systems, taking RVF as a case study. The risk that can be encountered from wrong diagnosis, management, and control because of lack of skills. Shortage in knowledge and co-ordination of efforts to compact outbreaks were also examined. The opportunities for identification of gaps in practice are to be identified through a survey of available knowledge.

2. 1 Study design:

Two methods were applied:

1. An active survey of knowledge attitudes and practice by all concerned parties including veterinary and medical professionals and the animal owners.
2. Secondary data collection and analysis from published materials in newspapers about the issue under consideration. This is detailed as follows:

2.1.1 A Questionnaire was designed to cover the following categories:

1/ veterinians 2/livestock farmers 3/physicians

As these categories of people are more subject to the risk of RVF. The above-mentioned three questionnaires were used to collect data to be analyzed. (Annex 1,11,111). One was administered to veterinarian, who help animals during birth or perform inspection at slaughter or postmortem examination .The focus of the study was on the knowledge, how to diagnose prevent, and control the disease, and aquire and keep enough updated information.(attached questionnaire)(Annex1). A convential sample

composed of 40 veterinarians were included in the questionnaire; the sample was composed of both males, and females.The second questionnaire was for physicians on how they contact cases in hospitals , and their awareness of are health care to be taken to estimate the knowledge of doctors about the zoonotic disease , and their risk , diagnosis and treatment .the second questionnaire included (30) study samples .(Annex 11).The final questionnaire was designed for individuals who owners animals and are at risk of RVF, due to their contact frequent with animals.

Important habits were included in the questionnaire e.g. drinking milk and the practice of heat treatment, handling raw meat. The third questionnaire included (50) random sample.(Annex 111).

2.1.2 Retrospective study of published information in daily newspapers.

All publish material was reviewed and categorized by:

1. daily paper
2. authors
3. information: included source of informations and validity.

To assess the scientific validity of information disseminated to the public.

2.1.3 Data analysis

To assess the contribution of each of the mentioned stakeholders it is necessary to assess the degree of knowledge and ability to transfer it to communities. Microsoft excels 2003 for windows were used for data analysis. Descriptive statistic (frequency and percentage analysis system) was used for variables. Results are presented in tables, while Bar and Pie charts were used for some variable.

CHAPTER Three
THE RESULTS

3.1 The veterinarian's general knowledge:

Analysis of questionnaires administered to veterinarians showed that their knowledge about disease is good as they were able to list and rank the important infectious disease affecting live stock (Table 1).They were able to differentiate zoonotic diseases from others (Table 2) .theirs knowledge was also confirmed by listing diseases of young animals or disease affecting more than one species (Table 3) The responsibilities to deal with RVF, the disease under study ,was not clear as it varied from different ministries , departments and responsible persons (Table 4). The responsibilities in disease reporting and handling Sample collection (Table5) showed that most vets (27.78 %) are involved in disease reporting , the other responsibilities are less dealt with the role of vets in awareness raising , is however , very limited (5.56) .Figures (2) shows the knowledge of veterinarians about disease that cause abortion ,brucellosis and RVF were the highly mentioned diseases . However some diseases mentioned were not among those which affect mammals primary (AI), others may incidentally cause abortions but it is not pathognomonic (Rabies, TB, Anthrax, Hydatosis). Fig (3) shows method of control of RVF, which confirm good knowledge of veterinarians.
The source of information used by used by vets were mainly the internet and scientific journal, while media was the last used (Fig 3). The constrains faced were lack of libraries and internet connections, economic reasons ranks last (Fig 5).

Table 1

Veterinarians ranking of the most important

Infectious animals disease

Disease	Percentage of respondent	No
CBPP	77.78 %	28
FMD	69.44 %	25
Brucellosis	58.33 %	21
HS	52.78 %	19
Rift valley fever	50 %	18
RP	44.44 %	16
Anthrax	27 .78 %	10
CCPP	25 %	9
Rabies	22.22 %	8
Sheep pox	22 .22 %	8
PPR	16 .67 %	6
BQ	16 .67 %	6
LSD	8.33 %	3
TB	2.78 %	1
Blood parasite	2.78 %	1
Internal parasite	2.78 %	1

Table 2

Veterinarians list for the most

important zoonotic disease:

Disease	Percentage	No of respondents
Rabies	72.22 %	26
Brucellosis	94.44 %	34
RFV	86.11 %	31
Avian influenza	52.78 %	19
T B	38.89 %	14
Anthrax	25 %	9
Toxoplasmosis	16.67 %	6
Hydatosis	8.33 %	3
Tape worm	5.56 %	2
Yellow fever	2.78 %	1

Table 3

Veterinarians knowledge on diseases that

Affect young animals and or/more than one species

Disease	Effect on young animal	Effect on multiple species
RVF	+	+
PPR	+	-
FMD	+	+
Diarrhoea	+	+
Rabies	-	+
Brucellosis	-	+
Anthrax	-	+
Pox	-	+

key:

+ positive answer

_ Not applicable

Table 4

Veterinarian awareness about reporting and

Institution responsible for control of RVF disease

Responsible department	Percentage of positive respondents	No of positive respondents
Animal health and epizootic control Dept	22.22%	10
Veterinary unit /hospital	16.67%	6
Direct superior	11.11%	4
Organization NGOS	16.67%	6
Central veterinary research laboratory	5.56%	2
Ministry of health	36.11%	13
Owner /pastoralists / others	30.56%	11

Table 5

Role of veterinarians in reporting and / or sample collection

Role	Percentage of positive role	No of positive role
Take a sample and sent to lab	16.67%	15
Increase of a ware ness	5.56%	5
Disease reporting	27.78%	25
Vaccination	5.56%	5
Quarantine	13.89%	12

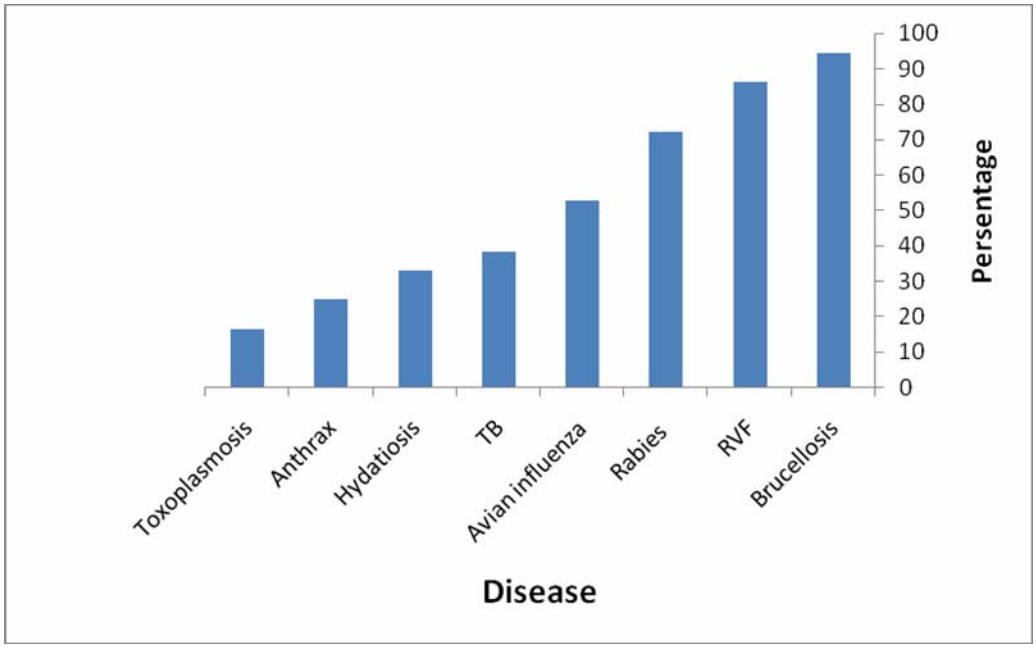


Fig (2) Disease that Cause Abortion in animals as mentioned by vets

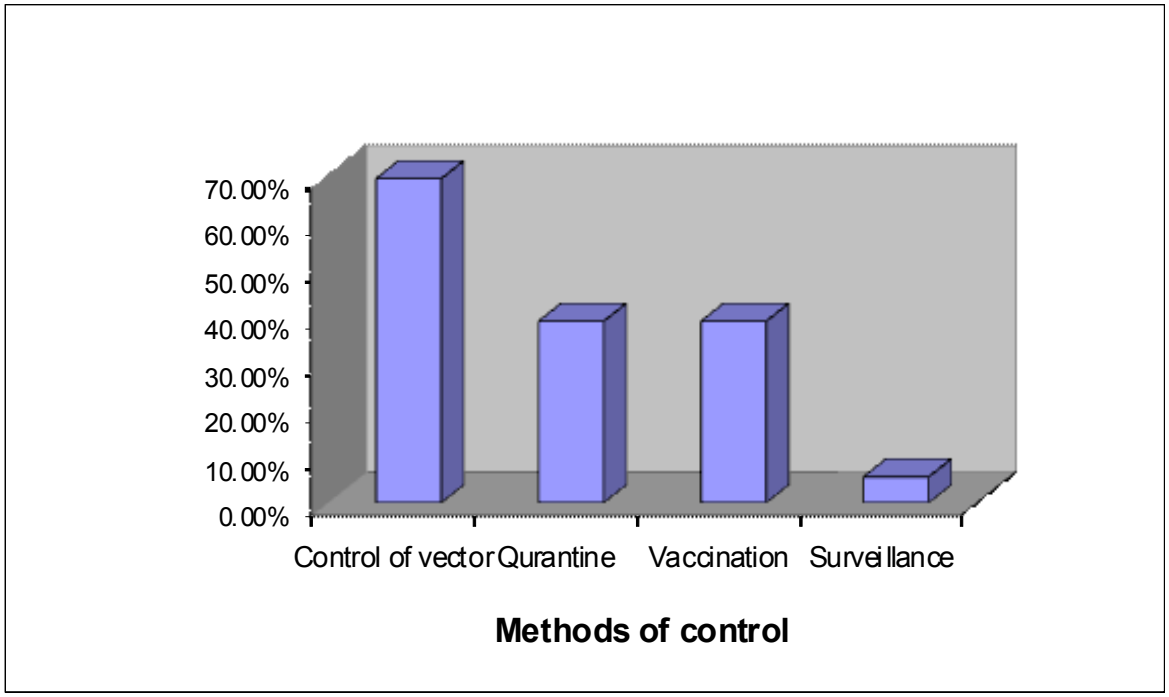


Fig (3)

Methods of control RVF as mentioned by veterinarians

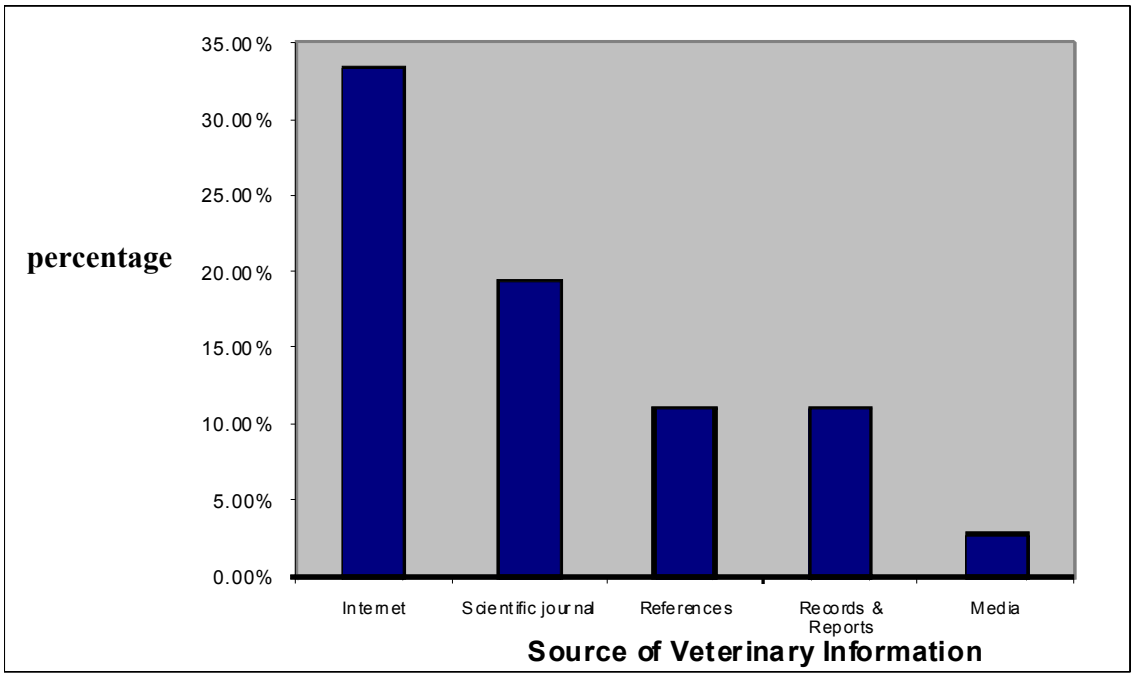


Fig (4)

Source of veterinary information used by veterinarians

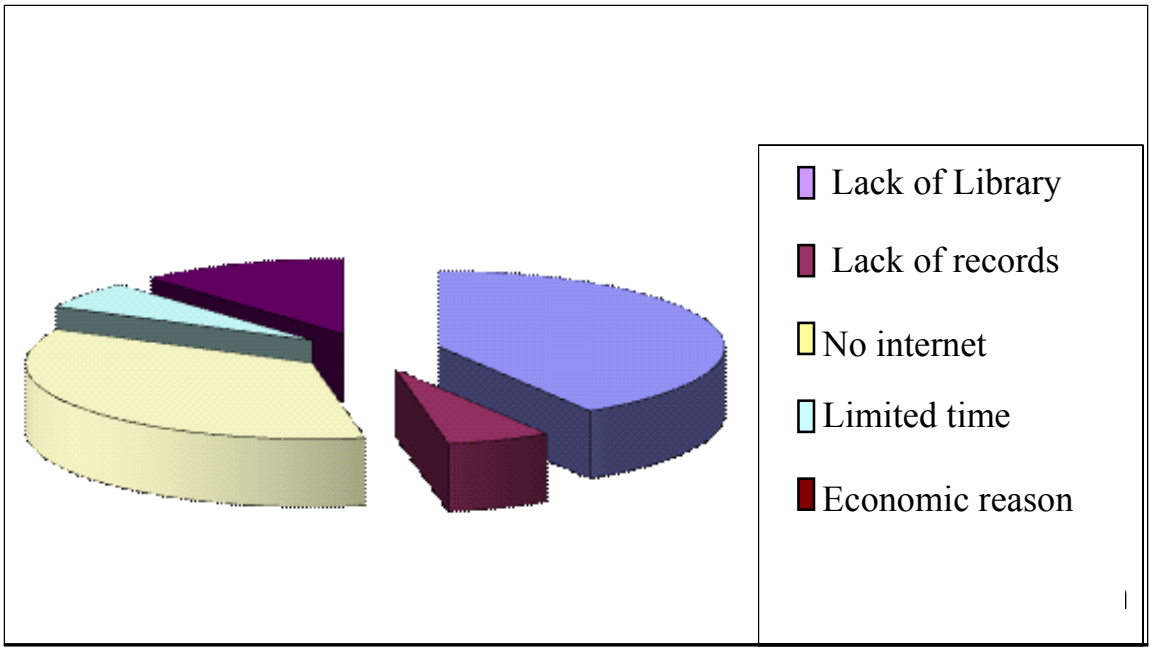


Fig (5)

Constrains facing veterinarians accessing information source

3.1.1 Source of knowledge

About 30.56%of veterinarians get their information from meeting and conferences, and 55.56% did not go to conference. While 27.78% went to internal conference, and 11.11% went to external. On the other hand, it was found that about 50% read material related to veterinary problems and 38.89%. did not. 100% of veterinarians have knowledge related to zoonosis.

3.2 The owners:

The owners who answered the questions have health problem in their herd, which was classified as: 15.55% having some disease, 8.88% have inflammations, and 31.11% have no health problem.(and 44.46% not respondent).They reported that veterinarians are responsible of 26.66% of these problems and the government is responsible for about 11.11 % of this problem, and about 6.66% have no body to care for their health problem of their herds.(and 5.57% not respondent). The ways of meat inspection is 26.66% depended on veterinarians and 8.88% depended on slaughterhouse-inspected meat, and about 31.11% do not know. In addition, 31.11% of owners have a role in slaughtering, and 51.11 % have no role. 80% of those owners eat meat, and 17.77% of them didn't. Ways of drinking milk include : about 70.33% of them drink boiled milk , and 17.44% drink raw milk , and 10.55% drink fermented milk , and 2% use milk in other ways (cheese – cooked). 15.55% of herd Gynecology care is the responsibility of owners and trader, 11.11% of pastoralist, and 20% of veterinarians.(53.34% not respondent). The help in birth of animals depend on (31.11%) owner and trader, (40%) on pastoralist, and 13.33% on veterinarians. About 84.44% of owners add new animal to stock, and 17.77% did not. About 28.88% have mixed species herds, and 66.66% did not. There are no wild animal in 95 .55% of the stock.

3.2.1 The livestock owners' knowledge:

Table (6) shows the knowledge of owners about the source of disease spread; it is a reflection of their understanding of extension services available to them. The owners perception for control of vectors was seen as use of insecticides in the first place , then the role of vets as being responsible to limit the spread of vector came second (fig 6). (Fig 7) shows ways of meat consumptions which may affect RVF transmission. meat is mostly eaten cooked , but raw meat is also used . The responsibilities of milking was taken by milkers (30%) , 20% did not practice milking , some owners and herders boys may practice milking (Fig 8) .Where milk is not an important product the role is not clearly assigned to certain people.

Ticks were the most abundant external parasites. The owners expressed concern and demand better methods to eradicate tick (Fig 9).Other vector mentioned included rodent, biting flies and lice. It was reported that abortion is limited in the field, where 85% responded that there were no abortions seen during last year.

3.2.2 Vaccination:

93.33% vaccinated the animals, and 8.88% did not. Component of the flocks was: about 62.22% had one species, and 40% had different species .The pasture was 60% dry, and 2.22% rainy. The stock is 5.55% staying in one place, and 11.11% did not. The death in animals: 24.44% say yes, and 62.22% say no. How they diagnose the disease: About 84.44% of owners diagnose by clinical signs, and 35.55% consult to veterinarians.

Table 6

Knowledge of owners about disease spread

Way of spread	Percentage of respondant
The labour	33.13%
The air	26.66%
The water	11.11%
The insect	4.44%
Do not know	11.11%

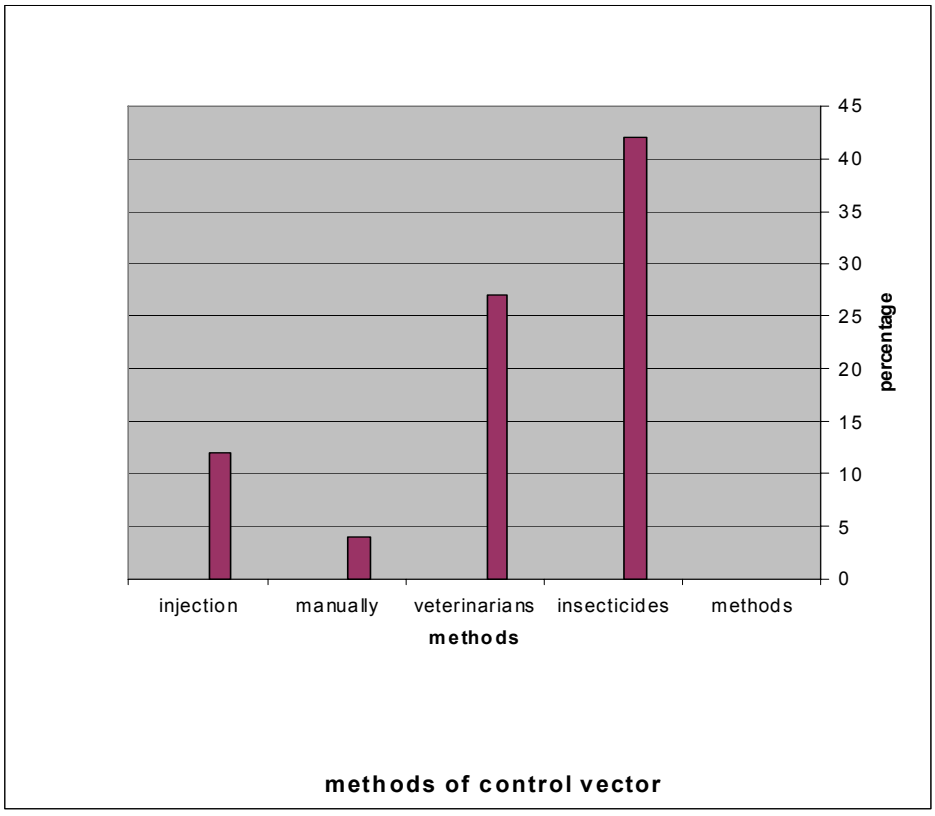


Fig (6) Means of control of vectors as seen by livestock owners

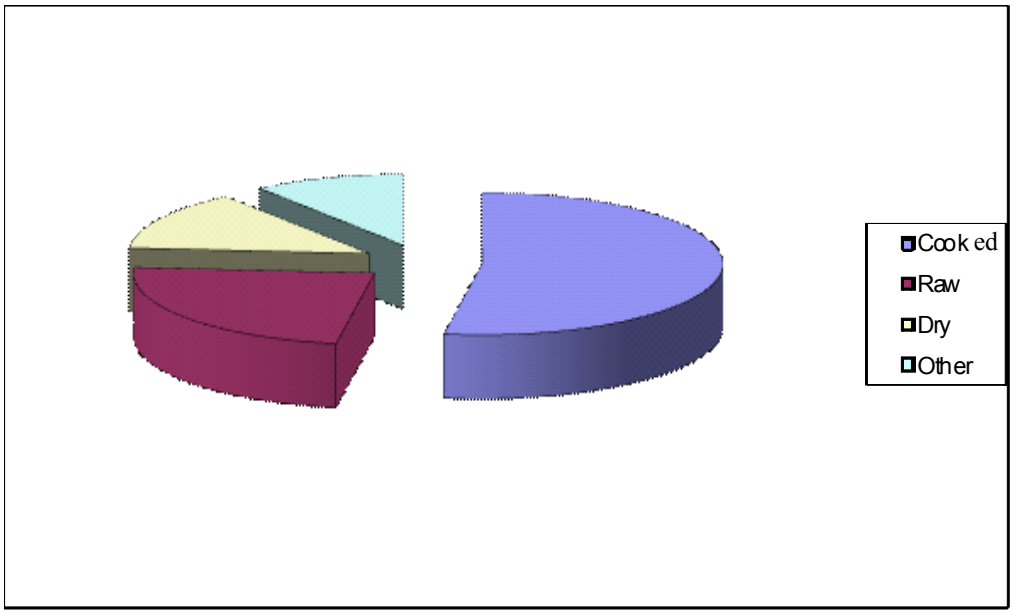
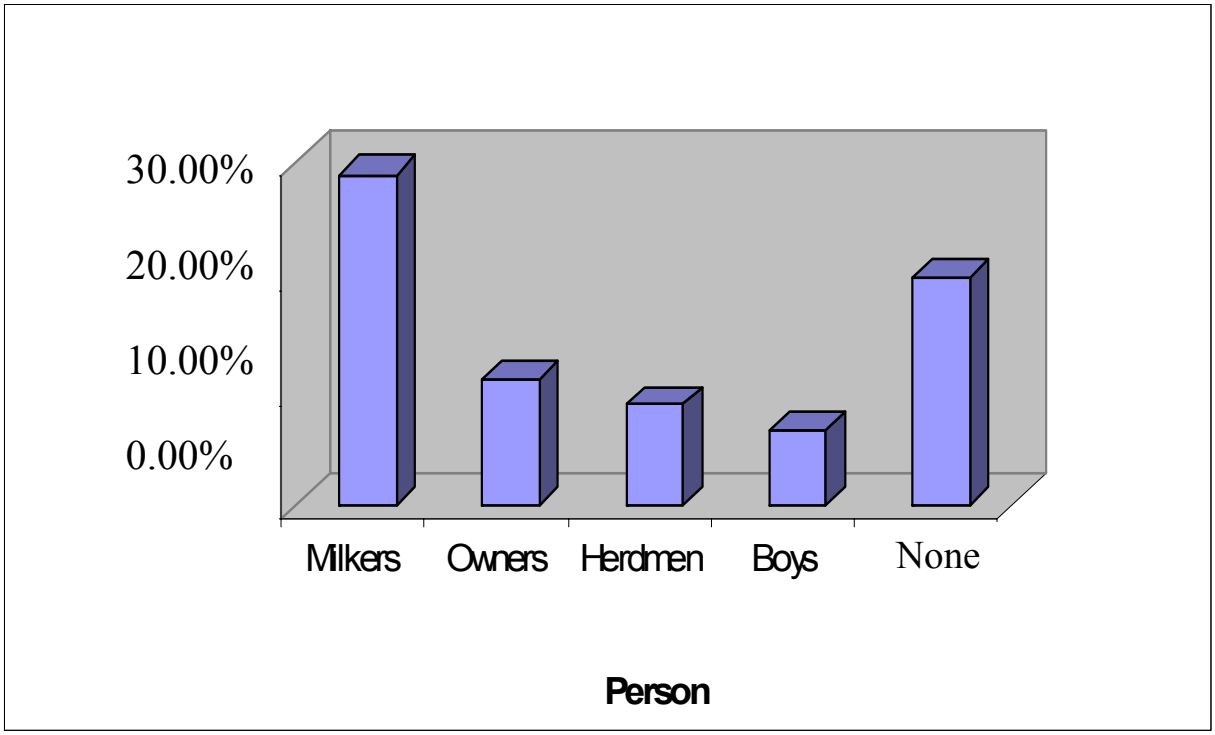
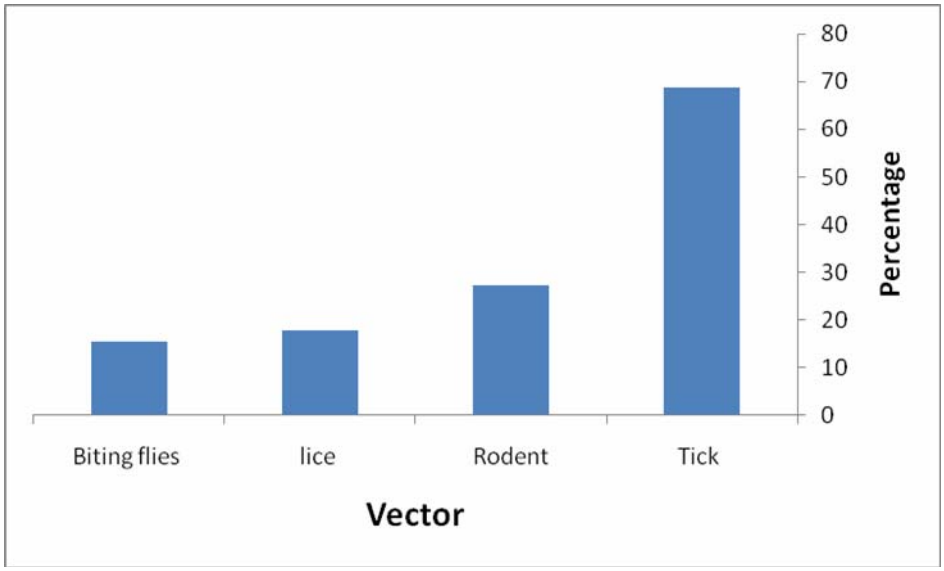


Fig (7) Ways of meat consumption by the community



Fig(8) role in milking by different individuals of the community



Fig(9) Type of vector found in the field as mentioned by livestock owners.

3.3 The physicians:

80% of these physicians are journalist, while 15% of them are specialist. How they report the zoonotic disease About 55% said there are institutions responsible for zoonotic disease, and 45.% said no. 5% said the responsibility is shared between institutions, 45% said the Ministry of Health is responsible and 56% did not responsible.

3.3.1 The physician's knowledge:

Table (7) shows medical doctors knowledge about zoonosis to be reported, however, medical doctor knowledge about important zoonosis is listed in Table (8). Increase of awareness and treatment of infected animals Is the most important methods of control (Table 9) .As they mentioned by physicians. Physicians suspension and confirmation of zoonosis is not a direct process .The only suspect in 10% of attem When contact with animals was mentioned. History is not considered seriously (2%). (Table 10).(Table 11) also confirm this finding where physicians gave consumption of raw food as the main method of zoonosis transmission , fallowed by insect bite and discharge from animals (20%each).contact with animals and raw milk were the least suspected (10%each).

3.3.2 Knowledge related to zoonosis:

90% say yes, no one say no. Relationship with veterinary: about 40% say yes, and 45% say no .and 65% say there is no share role in contain the disease, and 40% say yes. 60% of doctors have knowledge , and 40% have 't .kind of this knowledge about 25% read scientific only , and 70% junoral.75% have challenge to get information ,and 15% have not , one of this challenge no library (15%) , no inter net (5%) , economic reasons

(15%) and no sufficient time (55%).They do this in space time 55% , any time 30% and some read when need information 35%.

Table 7

Medical doctors knowledge about zoonosis to be reported:

Disease	Percentage	No of respondents
Rift valley fever	65%	13
Rabies	30%	6
Avian influenza	25%	5
Brucellosis	20%	4
Anthrax	20%	4
Yellow fever	5%	1
T .B	5%	1

Table 8

Medical doctors knowledge about important zoonosis

Disease	Percentage	No
Brucellosis	80%	16
Rabies	40%	8
Rift valley fever	40%	8
Tape worm	25%	5
Avian influenza	25%	5
Yellow fever	5%	1
T .B	10%	2
Toxoplasmosis	5%	1
Mad cow	15%	3
Anthrax	25%	5

Table 9

Method of control of zoonosis as mentioned by physicians

Method of control	Percentage
Avoidance contact with animals	10%
Avoidance of raw food	10%
Vaccination	5%
Treatment of infected animals	30%
Early diagnosis	10%
Increase of awareness	35%

Table 10

Physicians suspension and confirmation of zoonosis

Suspecian / confirmation	Percentage of respondants
Laboratory diagnosis	25%
Clinical signs	50%
Contact with animal	10%
History of disease	2%

Table 11

Methods of transmission of zoonosis as mentioned by physicians

Methods	Percentage	No
Contact with animal	10%	2
Contaminated milk	10%	2
Bite	20%	4
Disgorge from animal	20%	4
Raw food	75%	15

4.1 The newspapers:

Reviewed the information in 99 newspapers the results are as follows

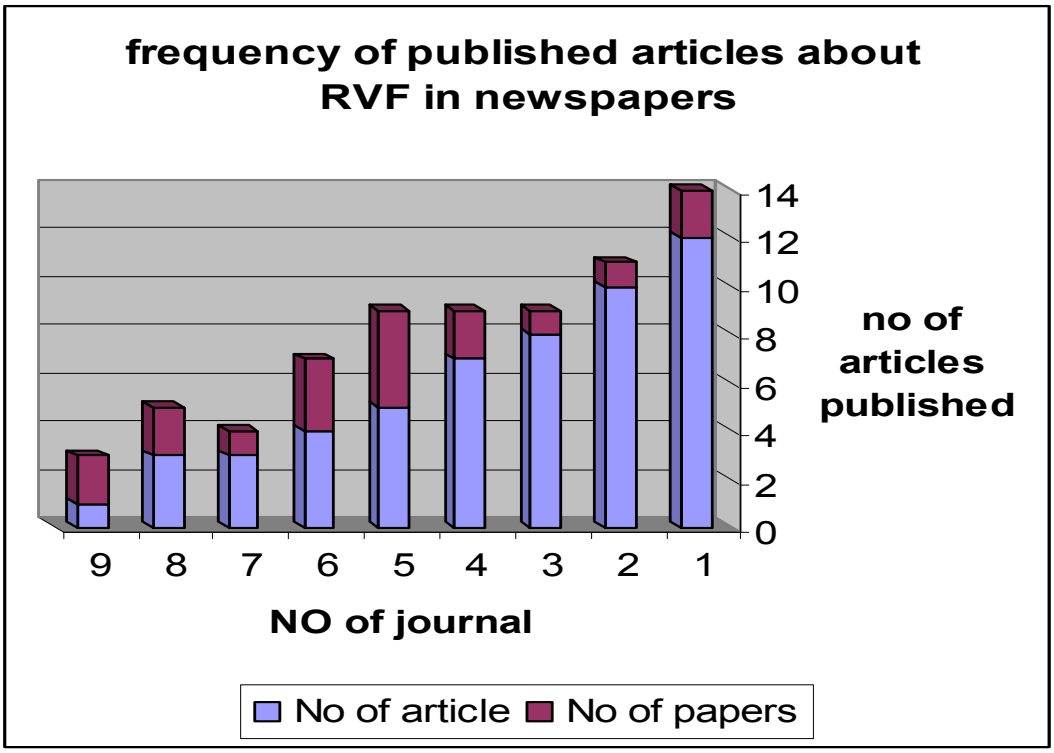
Type of published material	No of times	Percentage
General information	90	90.90 %
Scientific correct information	13	13.13 %
Wrong information	12	12.12 %
Mixed information	74	74 .74%

The percentage of scientific correct information was very low (13.13%), when compare with general information,(90.90%) this because there was no scientific background, and most authers are not specialized to deal with health problem.

Table (12)

Type of articles about RVF episode

Type	**No**
Press release	16
Column	66
Interview	8
Scientific view	9
Total	99



Fig(10) frequency of published article about RVF in newspapers

Chapter Four
Discussions

This study was planned to probe and assess the degree of professional information that is made to available to the community. The recent suspected outbreak of Rift Valley Fever in Sudan was taken as a case study. The triad of concerned communities of veterinary and medical professionals, the community and dissemination portal of the media, taking daily newspapers as an example, were studied.

Because of the uniqueness of this study, comparing findings with others was not easy, if not impossible. Yet it could be taken as a baseline study.

Media play an important role in dissemination of information to communities , because it is very fast in reaching a wide zone . For these reasons information accuracy are vital to avoid wrong facts and ideas to be spread .

In this study information in the last epidemic of RVF were evaluated , focusing light on these information as correct or wrong details listed. Also the role of professional related to zoonosis disease problem , because zoonosis affect all level of community economically particularly in trade and exporting of animal .By analysis of data from daily news paper articles about RVF epidemiology , it was found that about 99 news paper wrote about the topic , 90% of them wrote genera ideas about RVF 13% of those mentioned correct scientific information , and 12% wrote incorrect scientific information .74% of information was mixed of correct and wrong ,although there is a great role of the press to provide correct information(the code of press release and publication for the year 2004).

It was clear that the writers were not from science qualifying institutes

this was reflected in writings more towards fiction and propaganda than quiet narration of facts .The outcome is mostly a lot of debate by non-qualified audience .In contradiction ,in developed countries matters which are very specialized are handled by specialized authors .The law in Sudan clearly shows the limits , especially ethical conduct , but abiding by the rules are sometimes not observed . other media portals , as television, radio and internet contributed, although not included in the study. the general trends was as short clinical articles, release by officials or interviews. In most of these the source of information was not mentioned.

Continuing professional development (CPD)is responsibility of veterinarians , especially in disease diagnosis .Asked about contagious disease veterinarians know disease which occur repeatedly in the field . Knowledge was however variable ranging between (2.78%-77.78%).

Aware ness about disease is also affected by media as in the case of RVF .Other means of knowledge improvement such as attendance of conferences was also variable ,55% never attended ,while 11.44% attended international conferences , 45% attended national conferences. Lack of libraries was mentioned as a constraint. Most veterinarians saw that the internet is the most important source of information (33.33%). About 2% just take the information from media, as they may not have access to veterinary published material, It was noticeable that pamphlets, bulletins and books on veterinary subject are not readily available. Also the language barrier constitute a big problem for young professionals to cope with and understand recent developments in knowledge .The responsibilities of the Sudan Veterinary council, the Sudan veterinary association and the relevant ministries in CPD are not well taken. Concerned statuary bodies, however are the focal points for professional development. It is their mandate to assure the standards of

practicing veterinarians (Sudan Veterinary Counical Act,2004).

86% of vets mention RVF as an example of zoonotic disease, they mentioned correctly the role of mosquitoes and other means in transmission, and correct diagnosis because media talked about RVF for many months, Although Most veterinarian (61.11%) never diagnosed RVF in the field , and the percentage was even higher in physicians (90 %) . This reflects the strong theoretical knowledge as compared to practical experience , practice leads to improving the skills , and practical training depends on good theoretical background . However ,dissemination of knowledge through inter-net based learning , using cases as demonstration , could be a solution to lack of cases in the field. Inter – disciplinary approaches are important in control of epidemics , particularly zoonosis as it plays a major role to contain the disease . A high percentage of physicians (65%) saw that there is no complementary role in containing disease , 45% of physicians responded that there is no relationship between the two specialization , and high percentage (45%) thought that the ministry of health is responsible of zoonosis . In the current situation there is a clear dichotomy between medical and veterinary practices in developing. countries, Sudan are no exception. This is probably the cause of this response from physicians. In developing countries public health issues, including zoonosis are handled in an integrated manner by both professions. 65% of physicians thought that RVF is the most reported disease because of the effect of the media, and (95%) answered that most people susceptible to disease are those who have contact with animals, and raw food is the most important way of transmission (75%).

Raising awareness is the responsibility of veterinarians . Media is a forum of dissemination of extension messages. (26.66%) of livestock

owners saw that veterinarians are responsible of meat inspection , while (31.11%) said there is no role , this support the opinion about extension , as the role of vets . in meat inspection is not clear to all community member .
84.44% a quire new animals to be added to their herds , which could be one of important ways of spread of diseases. 84.44% traditionally diagnose disease from signs known to them, and (35.55%) consult veterinarians. This is also the responsibility of veterinarians and media particularly use of radio because it spread widely to livestock owners .Extension messages needed to be formulated to suite different strata of livestock communities , with varying levels of knowledge .Also messages should reach target communities everywhere. As mentioned above, this study although not comparable to other studies, yet it reveled gaps between academic knowledge and practice. The root cause could be embedded in the classical curricula taught at different institutions which does not include community development as a strong component. From and overall look at the results of this analytical study it is evident that the knowledge available to veterinarians and medical doctors at the academic training level are good. They were easily retrieved and given in response to questionnaires or interviews. However, self-learning was not found to be at the same level, particularly in practical application, practice is limited to tentative diagnoses and treatment. Also, integration with other professions is vague. the media does not employ experienced professionals to review and correct published materials .the situation of compartmentalization of professions leads to creating an environment of suspicion and loss of trust in the information released .it is thus recommended to:

1. form a national body of all concerned stakeholders to deal with public health issue particularly zoonosis .

2. Encourage experienced professionals to have periodicals that address issues of concern to the communities in simplified ways.
3. To make available to the different sectors of the community guidelines for the handling and management of suspected cases.

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المراجع العربية:

المجلس القومي للصحافة والمطبوعات (قانون الصحافة والمطبوعات لعام2004)

بسم الله الرحمن الرحيم

الاسم:.....

العمر:.....

الدرجات العلمية:

الدرجة	الجامعة	السنة

التخصص:.....

العمل :.....

حكومي ☐ **أكاديمي** ☐ **خاص** ☐ **أخري** ☐

1- ما هي أهم ست إمراض السارية الهامة في الحيوان حسب المسببات:

1) .....2).....

3).....4).....

5).....6).....

2- ما هي الإمراض المشتركة (zoonosis) .

.....

.....

3- اذكر بعض الامثلة:

.....

.....

4- اذكر بعض الإمراض التي تسبب إجهاض في الحيوان:

.....

5- اذكر بعض الإمراض التي تسبب نفوق في الحيوانات الصغيرة:

.....

6- اذكر بعض الإمراض التي تصيب أكثر من فصيلة:

.....

7- اجب علي الاسئله عن قائمة أمراض أدناه

المرض	المسبب	هل مشترك ام لا	طريقة الانتقال
البروسيلا			
طاعون المجترات الصغيرة			
النيوكسل			
القمبورو			
الجدري			
السعر			
التسمم الدموي			
انفلونز الطيور			
اللسان الازرق			
الفك المتكتل			
حمي وادي الصدع			

1) كيف تشخص حمي الوادي المتصدع؟

.....

2) هل شخصت أي حاله لحمي وادي المتصدع؟

أ) نعم ☐ ب) لا ☐

3) إذا كانت الإجابة بنعم ما هو العلاج؟

.....

4) ما هي طرق انتقال المرض؟

.....

5) ما هي طرق مكافحة هذا المرض؟

.....

1) هل تقرا باستمرار عن المواضيع المختلفة المتعلقة بالمشاكل البيطرية؟

أ) نعم ☐ ب) لا ☐

2) إذا كانت الإجابة (بنعم) ما هي مصادر معلوماتك؟

.....

3) ما هي المعوقات التي تواجهك للحصول علي معلومات؟

.....

4) ما هي مبادرتك للتطوير المهني؟

.....

5) ما هو اخر كورس تلقيته وما هو موضوعة؟

.....

6) هل حضرت مؤتمرات؟

أ) نعم ☐ ب) لا ☐

7) هل هي داخلية ام خارجية؟

.....

8) كيف تقوم بالتبليغ عن المرض المعين؟

.....

9) ما هو دورك في التبليغ عن المرض المعين؟

.....

10) ما هي الجهات الاخري المشاركة في مكافحة الإمراض؟

.....

.....

.....

بسم الله الرحمن الرحيم

الاسم ..... القبيلة.....

العمر..... المستوى التعليمى.....

الولاية ..... السكن.....

ما هى علاقتك بالحيوان ؟

.....

ما هى المشاكل الصحية التى تواجهكم ؟

.....

من هو المسئول عن مشاكل التى تواجهكم ؟

.....

ما هى طرق فحص الذبيح فى منطقتكم ؟

.....

.....

.....

ما هو دورك فى الذبيح ؟

.....

هل تتناولون اللحوم باستمرار؟

(أ) نعم (ب) لا

فى اى صورة ؟

أ/مطهية ب/نيئة ج/مجففة د/أخرى

من المسئول عن عملية الحلابة ؟

.....

ما هى طرق تداول الحليب ؟

.....

.....

ما هى طرق تناول الحليب ؟

أ/مغلى ب/طازج ج/زبادى د/أخرى

ما هى مسئوليتك تجاه الرعاية التناسلية ؟

.....

.....

من المسئول عن عملية التوليد ؟

.....

هل تتكرر حالات الاجهاض ؟

أ/ نعم ب/ لا

هل تكرر بين القطيع حالات نفوق ؟

أ/نعم ب/ لا ج/عندما.....

أ كثر الاعمار القابلة للاصابة بالامراض ؟

1/ ا قل من سنة 2/ 1-2 سنة 3/ 2-3 سنة

4/ أ كبر من 3 سنة 5/ كل ما ذكر صحيح ز

ما هى أ كثر الأمراض التى تتردد عليكم (ما هو الاسم المحلى له) ؟

.....

.....

.....

كيف تقومون بمعرفة أو تشخيص المرض ؟

(1) بعلامات معروفة لديكم (2) بالذهاب الى الطبيب البيطرى

(3) البصير (4) أخرى

هل تقومون بالتحقين ؟

(أ) نعم (ب) لا

ما هو تكوين القطيع ؟

(أ) نوع واحد (ب) مختلفة

ما هى أعمارها ؟

.....

.....

ما هو وضع المرعى ؟

(أ) جاف فى العادة (ب) ممطر فى العادة

هل القطيع مستقر أم متجول ؟

(أ) مستقر (ب) متجول

هل تقومون بادخال حيوانات الى القطيع من الخارج (شراء) ؟

(أ) نعم (ب) لا

أذا كانت الاجابة (نعم) من أين تجلب ؟

.....

هل تختاط الماشية بالانواع المختلفة ؟

(أ) نعم (ب) لا

هل توجد حيوانات متوحشة فى المنطقة ؟

(أ) نعم (ب) لا

ما هى طرق وصول الأمراض اليكم من المناطق المجاورة ؟

.....

.....

.....

أي هذه الأنواع توجد بكثرة ؟

(أ) قراد (ب) قمل (ج) فئران (د) حشرات عاضة

كيف تقومون بمكافحتها والتخلص منها؟

.....

.....

بسم الله الرحمن الرحيم

جامعة الخرطوم

ماجستير صحة الحيوان في المناطق الحارة

استبيان

التاريخ / / 208م

الاسم:..... سنة التخرج.....

عمومي ( ) متخصص ( )

هل تقوم بالاطلاع باستمرار؟

نعم ( ) لا ( )

هل توجد معوقات تحد من اطلاعك؟

نعم ( ) لا ( )

إذا كانت الاجابة نعم فما هي؟.....

.....

في أي زمن تقوم بالاطلاع؟

وقت الفراغ ( ) أي زمن ( ) للحصول علي معلومة ( ) أخري( )

ما هي الإمراض المشتركة؟ .....

اذكر بعض الإمراض المشتركة حسب أهميتها للإنسان؟ .....

.....ذكر

طرق الانتقال؟ .....

كيف تتأكد إن الاصاب لها علاقة بالحيوان؟ .....

.....

من هم الأشخاص الأكثر قابلية للإصابة؟ .....

.....

هل شخصت أي حالة من الإمراض المشتركة من قبل؟

نعم ( ) لا ( )

ما هي الإرشادات التي توجهها للأشخاص المحتكين بالحيوانات؟.....

.....

كيف تقوم بمكافحة الإمراض المشتركة؟ .....
.....
ما هي الإمراض المهمة التي يجب التبليغ عنها؟ .....
.....
كيف تقوم بالتبليغ وما هي الجهة المباشرة؟ .....
.....
هل تعتقد إن احتواء المشاكل الصحية هي مهمة جهة معينة؟
نعم ( ) لا ( )
ما هي علاقتك بالمهنة البيطرية؟ .....
ما هي أوجه الشبة بين الطيب والطبيب البيطرية؟.....
.....